

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Stefano et al.

Attorney Docket No.: R138-200US

Serial No.: 10/526091

Group Art Unit: Unknown

Filed: 2/23/2005

Examiner: Unknown

Title: NITRIDE OXIDE AND ITS BIOMEDICAL SIGNIFICANCE

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**INFORMATION DISCLOSURE STATEMENT**

Dear Sir:

This Information Disclosure Statement is submitted:

X under 37 CFR 1.97(b), or (Within three months of filing national application; or date of entry of international application; or before mailing date of first office action on the merits; whichever occurs last)

— under 37 CFR 1.97(c) together with either a:

— Statement under 37 CFR 1.97(e), or

— a \$180.00 fee under 37 CFR 1.17(p), or

(After the CFR 1.97(b) time period, but before final action or notice of allowance, whichever occurs first)

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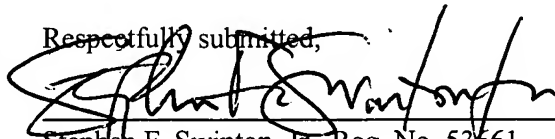
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X Applicant(s) submit herewith Form PTO 1449-Information Disclosure Citation together with copies, of patents, publications or other information of which applicant(s) are aware, which applicant(s) believe(s) may be material to the examination of this application and for which there may be a duty to disclose in accordance with 37 CFR 1.56.

The relevance of the attached references is that this is the closest art of which Applicant is aware. Applicant submits that the above references taken alone or in combination neither anticipate nor render obvious the present invention. Consideration of the foregoing in relation to this application is respectfully requested. It is requested that the information disclosed herein be made of record in this application.

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, or the correspondence is being facsimile transmitted to the USPTO, on the date indicated below.

Respectfully submitted,

  
Stephen F. Swinton, Jr., Reg. No. 53661  
Attorney/Agent for Applicant(s)

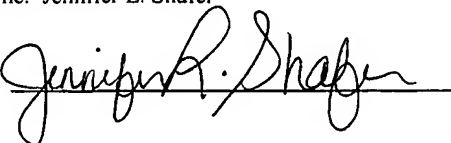
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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		Application Number	10/526,091
		Filing Date	02/23/2005
		First Named Inventor	Stefano et al.
		Group Art Unit	
		Examiner Name	
Sheet 1 of 2	Attorney Docket Number	R1381-200US	

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		Bilfinger et al., "Pharmacological Evidence for Anandamide Amidase in Human Cardiac and Vascular Tissues," International Journal of Cardiology, vol. 64, Suppl. 1, pp. S15 - S22, 1998.	
		Bilfinger et al., "Human Aortocoronary Grafts and Nitric Oxide Release: Relationship to Pulsatile Pressure," Annals of Thoracic Surgery, vol. 69, pp. 480 - 485, 2000.	
		Deutsch et al., "Production and Physiological Actions of Anandamide in the Vasculature of the Rat Kidney," Journal of Clinical Investigation, vol. 100, no. 6, pp. 1538 - 1546, 1997.	
		Fimiani et al., "Opiate, Cannabinoid, and Eicosanoid Signaling Converges on Common Intracellular Pathways Nitric Oxide Coupling," Prostaglandins and Other Lipid Mediators, vol. 57, pp. 23 - 34, 1999.	
		Fimiani et al., "Morphine and Anandamide Stimulate Intracellular Calcium Transients in Human Arterial Endothelial Cells: Coupling to Nitric Oxide Release," Cellular Signaling, vol. 11, no. 3, pp. 189 - 193, 1999.	
		Magazine et al., "Morphine-Induced Conformational Changes in Human Monocytes, Granulocytes, and Endothelial Cells and in Invertebrate Immunocytes and Microglia are Mediated by Nitric Oxide <sup>1</sup> ," Journal of Immunology, vol. 156, pp. 4845 - 4850, 1996.	
		Prevot et al., "Estradiol Coupling to Endothelial Nitric Oxide Stimulates Gonadotropin-Releasing Hormone Release from Rat Median Eminence Via a Membrane Receptor," Endocrinology, vol. 140, no. 2, pp. 652 - 659, 1999.	
		Prevot et al., "Morphine and Anandamide Coupling to Nitric Oxide Stimulates GnRH and CRF Release from Rat Median Eminence: Neurovascular Regulation," Brain Research, Vol. 790, pp. 236 - 244, 1998.	
		Salzet et al., "Leech Immunocytes Contain Proopiomelanocortin: Nitric Oxide Mediates Hemolymph Proopiomelanocortin Processing <sup>1</sup> ," Journal of Immunology, vol. 159, pp. 5400 - 5411, 1997.	
		Salzet et al., "Invertebrate Proenkephalin: $\delta$ Opioid Binding Sites in Leech Ganglia and Immunocytes," Brain Research, vol. 768, pp. 224 - 232, 1997.	
		Sonetti et al., "Microglia in Invertebrate Ganglia," Proc. Natl. Acad. Sci. USA, vol. 91, pp. 9180 - 9184, September 1994.	
		Stefano, G. B., "Autoimmunovascular Regulation: Morphine and Anandamide Stimulated Nitric Oxide Release," Journal of Neuroimmunology, vol. 83, pp. 70 - 76, 1998.	
		Stefano et al., "Stimulatory Effects of Opioid Neuropeptides on Locomotory Activity and Conformational Changes in Invertebrate and Human Immunocytes: Evidence for a Subtype of $\delta$ Receptor," Proc. Natl. Acad. Sci. USA, vol. 86 pp. 6307 - 6311, August 1989.	
		Stefano et al., "Presence of the $\mu$ 3 Opiate Receptor in Endothelial Cells: Coupling to Nitric Oxide Production and Vasodilation," Journal of Biological Chemistry, vol. 270, no. 51, pp. 30290 - 30293, 1995.	

Examiner Signature	Date Considered
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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		Stefano et al., "Evidence for the Involvement of Opioid Neuropeptides in the Adherence and Migration of Immunocompetent Invertebrate Hemocytes," Proc. Natl. Acad. Sci. USA, vol. 86, pp. 626 – 630, January 1989.	
		Stefano et al., "Cannabinoid Receptors are Coupled to Nitric Oxide Release in Invertebrate Immunocytes, Microglia, and Human Monocytes," Journal of Biological Chemistry, vol. 271, no. 32, pp. 19238 – 19242, 1996.	
		Stefano et al., "[D-Ala <sup>5</sup> ]Deltorphin I Binding and Pharmacological Evidence for a Special Subtype of $\delta$ Opioid Receptor on Human and Invertebrate Immune Cells," Proc. Natl. Acad. Sci. USA, vol. 89, pp. 9316 – 9320, October 1992.	
		Stefano et al., "Mytilus Edulis Hemolymph Contains Pro-Opiomelanocortin: LPS and Morphine Stimulate Differential Processing," Molecular Brain Research, vol. 63, pp. 340 – 350, 1999.	
		Stefano et al., "Enkefalin and Opioid Peptide Association in Invertebrates and Vertebrates: Immune Activation and Pain," Immunology Today, vol. 19, no. 6, pp. 265 – 268, June 1998.	
		Stefano et al., "Morphine- and Anandamide-Stimulated Nitric Oxide Production Inhibits Presynaptic Dopamine Release," Brain Research, vol. 763, pp. 63 – 68, 1997.	
		Stefano et al., "Invertebrate Opioid Precursors: Evolutionary Conservation and the Significance of Enzymatic Processing," International Reviews Cytol., vol. 187, pp. 261 – 186, 1999.	
		Stefano et al., "Long-Term Exposure of Human Blood Vessels to HIV gp120, Morphine, and Anandamide Increases Endothelial Adhesion of Monocytes: Uncoupling of Nitric Oxide Release," Journal of Cardiovascular Pharmacology, vol. 31, pp. 862 – 868, 1998.	
		Stefano et al., "Antagonism of LPS and IFN- $\gamma$ Induction of iNOS in Human Saphenous Vein Endothelium by Morphine and Anandamide by Nitric Oxide Inhibition of Adenylate Cyclase," Journal of Cardiovascular Pharmacology, vol. 31, pp. 813 – 820, 1998.	
		Stefano et al., "Macrophage Behavior Associated with Acute and Chronic Exposure to HIV GP120, Morphine and Anandamide: Endothelial Implications," International Journal of Cardiology, vol. 64, Suppl. 1, pp. S3 – S13, 1998.	
		Stefano et al., "The Presence of the $\mu$ 3 Opiate Receptor in Invertebrate Neural Tissues," Comp. Biochem. Physiol., vol. 113C, no. 3, pp. 369 – 373, 1996.	
		Bilfinger et al., "Direct Assessment and Diminished Production of Morphine Stimulated NO by Diabetic Endothelium from Saphenous Vein," Acta Pharmacologica Sinica, vol. 23, no. 2, pp. 97 – 102, Feb 2002.	
		Stefano et al., "Cell-Surface Estrogen Receptors Mediate Calcium-Dependent Nitric Oxide Release in Human Endothelia," Circulation, vol. 101, pp. 1594 – 1597, 2000.	

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